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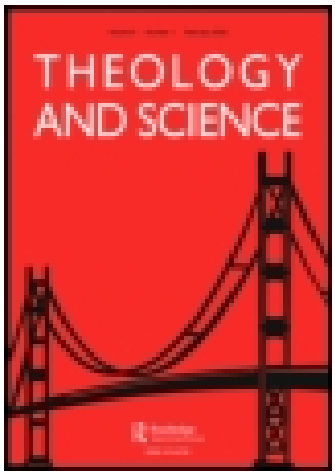

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Fallen Angels or Rising Beasts? Theological Perspectives on Human Uniqueness

J. WENTZEL VAN HUYSSTEEN

Abstract *Are human beings bearers of the divine as the Christian understanding of the* imago Dei *suggests? Or, are we merely rational animals, as a scientific assessment suggests? In this article, I contend that both theological and scientific explanations complement each other. Biological evolution has led to emergent qualities that have given rise to intelligence and the human creation of culture, science, and religion.*

Key words: Evolution; Emergence; Cognitive fluidity; Tradition; *Imago Dei*; Personhood

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In the last two decades the theology and science-dialogue has blossomed into one of the most prominent discourses of our times. One of the enduring questions of this discourse remains the following: is there a way that the integrity of our most important theological tradition(s) can be maintained when we go into conversation with the sciences? More importantly: is there a way that these traditions themselves may actually function as a bridge to some of the most prominent contemporary scientific concerns?

Many of us will agree that even the briefest overview of the contemporary theological landscape actually reveals a rather startling fragmentation of theological ideas and traditions. There certainly is a sense in which this fragmentation could be seen to be caused by what often is called "the postmodern challenge" of our times. This radical pluralization following skeptical forms of postmodern critique has, however, not only affected different theologies in different ways, but has seriously undermined any attempt to construct a safe epistemological space where, as theologians, we might be taken seriously in interdisciplinary dialogue. For the Christian theologian this has profound implications, and questions such as the following haunt some of us all the time: in a radically pluralist world, will it still be possible for theology to join other modes of knowledge and reasoning strategies in some form of interdisciplinary, public discourse? Of course, the troubling question remains: why should theologians care about having some sort of public voice in our various, complex cultures? Might it not be easier for theology, also as a coherent and consistent way of defending its truth claims, to just fall back massively on its respective and preferred traditions, and to hope that some form of local consensus will emerge that will enable us to hang on to whatever we see as the "truth?"

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Should we not, however, seriously avoid the insular comfort of this kind of methodological isolationism, where what we see as our comfortable and preferred tradition(s) can easily become a rather restrictive prison for theological reflection? I have argued elsewhere that non-foundationalist attempts to rely solely on the uniqueness of confessional traditions can in fact turn out to be just the other side of the great modernist debate where, *vis-à-vis* the objectivist claims of a powerful and dominant scientific culture, theological traditions are quickly transformed and reduced into privatized matters of individual belief and desire.[1] I believe that the critical rejection of modernist, universalist notions of rationality will indeed imply that theology should always be deeply embedded in the traditions that are alive and well in our culture(s). However, this should never simply imply a choice for only contextualist consensus and internalist rules, or for social standards and ideals that exclusively define only particular communities.

In my own recent writings I have argued for a *postfoundationalist* approach to theology, which implies two important moves. First, as theologians we should acknowledge the contextuality and the epistemically crucial role of interpreted experience, and the way that tradition indeed shapes the values that inform our reflection about God and what some of us believe to be God's presence in the world. Second, however, a postfoundationalist notion of rationality in theological reflection should open our eyes to the epistemic obligation that points beyond the boundaries of the local community, group, or culture, towards a plausible form of interdisciplinary conversation. The overriding concern here is as follows: while we always come to our interpersonal and cross-disciplinary conversations with strong beliefs, commitments and even prejudices, a postfoundationalist approach should enable us to identify the shared resources of human rationality in our different modes of knowledge, and then to reach beyond the boundaries of our own traditional communities in cross-contextual, cross-disciplinary conversation.

In this article, therefore, I argue that it is virtually impossible to talk about interdisciplinary theology—or any kind of public theology, for that matter—without first talking about the role of tradition in the task of theological reflection. I will not be dealing with the philosophical and epistemological challenges that undergird this kind of claim for interdisciplinary dialogue. However, as far as theology and theological reflection goes, three claims will be presupposed.

First, we always relate to our world through interpreted experience only. As such we indeed have no standing ground, no place for evaluating, judging, and enquiring, apart from that which is provided by some specific tradition or traditions. In this sense interpretation is as much at work in the process of scientific discovery as it is in different forms of narrative knowledge: it goes all the way down and all the way back, whether we are moving in the domain of science, morality, art, or religion.

Second, because we cannot think and act except through our embeddedness in tradition(s), our task is to stand in a *critical* relation to our tradition. This will imply a step beyond the confines of particular traditions, and will imply that the task and identity of theology is definitively shaped not only by its location in the living context of specific tradition(s), but also in the epistemic context of interdisciplinary reflection.

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Third, this contemporary interdisciplinary context is—epistemologically, at least—significantly shaped by the dominant influence and the ubiquitous presence of scientific rationality in our culture. Theologians, often focusing on the unique hermeneutics of theological reflection, have notoriously neglected this profound epistemological challenge by ignoring, or not acknowledging, the pervasive influence of the sciences on the values that shape theological rationality.

Rethinking tradition

Given the embeddedness of all our knowledge in tradition(s), it seems rather logical to me that if we want to reflect critically on the nature of theological reflection, we will have to be willing and ready to reflect critically on exactly those traditions that underlie our theological knowledge claims. If we want to avoid the isolated dogmatism of fideism, or the relativist anonymity of extreme forms of pluralism, it seems clear that we should realize that those crucial theological terms that are at the heart of our traditions and define the identity of our preferred traditions, can no longer be discussed within the generalized terminology of a meta-narrative that ignores the socio-historical context of the theologian.[2] This implies that the embeddedness of theology in specific traditions will first mean that theology should be local and contextual. However, the awareness of this contextuality and locality does not imply the choice for some kind of rampant relativism or easy pluralism: precisely the open acknowledgment of epistemic and hermeneutical preferences can facilitate, rather than obstruct, trans-contextual and interdisciplinary dialogue.

Therefore, in theology we are not only called to acknowledge and articulate the way our belief in God is embedded and shaped by our personal and ecclesial commitments, but we are obliged to return critically to exactly these beliefs and traditions, acknowledge their flexible and fluid nature as they are shaped by the ongoing process of history, and then to rethink and reconstruct them in interdisciplinary conversation. This is exactly what theologian Miroslav Volf means when, in reflecting on the relation of the churches to the cultures they inhabit, he points to finding a solution for this problem only if we can cultivate the proper relation between *distance from* a culture and *belonging to* a culture.[3]

Michel Foucault, of course, was famously critical of all thinking that uncritically situates itself in the context of tradition. In his celebrated attack on a totalizing and hierarchical rationality, he made much of what he called "regimes of knowledge" as forms of social practices that reflect—consciously or unconsciously—certain power relations within the existing social order. For Foucault it is precisely *tradition*, and the progressivist perspective of uninterrupted continuity we project onto it, which preserves the power-relations that underlie all conventions and oppressions.[4] For Foucault power is the fundamental characteristic of human culture and tradition, and as such produces knowledge. However, power and knowledge are so integrated with one another that there would be no point in dreaming of a time when knowledge will cease to depend on power: it is not possible for power to be

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exercised without knowledge, it is impossible for knowledge not to engender power. The question, however, is whether Foucault's views enable a distinction between legitimate and illegitimate uses of power, and whether his radical view of the discontinuities of tradition allows for some form of continuity at all.

A significant answer to this question is found in Delwin Brown's important book, *Boundaries of Our Habitations: Tradition and Theological Reconstruction*. Brown argues persuasively that traditions exhibit both change and continuity, and that at its heart, the behavior of a tradition—whether in changing or in staying the same—is fundamentally pragmatic, and as such is indeed concerned with survival, power, and legitimation.[5] The identity and integrity of a tradition is preserved by what we may call the heart, or *canon* of a tradition, which functions as an authoritative narrative/conceptual framework that shapes and molds continuity and change in traditions as lived realities. The relationship between a tradition and its canon(s) is always dialectical: the creation of identity and continuity, but also of discontinuity and novelty, occurs both as a rearrangement within its canon, or as a rearrangement of the place of canon in tradition—an idea already expressed by Larry Laudan *vis-à-vis* the role of sacrosanct elements in the research traditions of science.

Therefore, in theology our traditions, paradigms, and worldviews, like all other traditions, are historical creatures. As such, they are created and articulated within a particular intellectual milieu, and like all other historical institutions, they wax and wane. In all theological reflection, then, like in other modes of knowledge, we relate to our worlds epistemically through the medium of interpreted experience. This interpretation of experience, however, always takes place within the comprehensive context of living and evolving traditions, and it is these traditions that are epistemically constituted by broader paradigms or research traditions. Owing to their historical nature, research traditions in all modes of human knowledge can change and evolve through either the internal modification of some of its specific theories, or through a change of some of its most basic core elements. Larry Laudan correctly pointed out that Thomas Kuhn's famous notion of a "conversion" or paradigmatic revolution from one paradigm to another can most probably be better described as a natural, creative evolution within and between research traditions. Traditions, however, not only imply ongoing change and evolution, they also exhibit continuity. In this sense it would be right to claim that in any adequate theory of traditions, continuity and change would be primary categories.[6]

To understand what continuity and change might mean in the dynamic of evolving traditions, Larry Laudan—like Imre Lakatos—suggests that certain elements of a research tradition are sacrosanct and can therefore not be rejected without repudiation of the tradition itself. Unlike Lakatos, however, Laudan insists that what is normally seen as sacrosanct in traditions can indeed change with time. Lakatos and Kuhn were right in thinking that a research tradition or paradigm always has certain non-rejectable elements associated with it. They were, however, mistaken in failing to see that the elements constituting this core can actually shift through time. From this Laudan concluded that by relativizing

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the "essence" of research tradition with respect to time, we could come closer to capturing the way in which scientists and historians of science actually utilize the concept of tradition.[7]

This not only reveals again the radical historical nature of all traditions, but also that intellectual revolutions take place, not necessarily through complete shifts, but through the ongoing integration and the grafting of (research) traditions. From this we can now glean the following characteristics of research traditions:[8]

First, because we belong to history, tradition is constitutive of the present and finally explains why we relate to our world epistemically only through the mediation of interpreted experience.

Second, research traditions—like all traditions—cannot be reduced to the activities of individuals and groups within them, but they also have no reality outside of specific (epistemic) communities.

Third, (research) traditions are dynamic, evolving phenomena that live precisely in the dialectic of continuity and change.

Fourth, (research) traditions are never isolated from one another, because the borders separating traditions from their milieus and from other traditions, are usually, if not always, exceedingly porous.

Fifth, all traditions have sacrosanct elements which, even if they shift or change over time, form the canons of, and define the identity of traditions. These canons serve as the source of creativity as well as the principle of identity of traditions.

What now should be clear is that any uncritical retreat to, or fideist commitment to a specific tradition or its canon(s) would seriously jeopardize the epistemic status of theological reflection as a credible partner in a pluralist, interdisciplinary conversation. Within a fideist context all commitment and religious faith seems to be irrevocably arbitrary. The most serious limitation to any fideist epistemology, however, would be its complete inability to explain why we choose certain viewpoints, certain networks of belief, and certain traditions over others. Surely, there must be more to the using of religious language than just understanding and adopting the internal workings of some specialized linguistic system that is not answerable to anything or anybody outside itself. There also should be more to the making of commitments than just being embedded in traditions that can never be questioned. Theology's critical relation to tradition, thus shows us that all religious and theological language are indeed human conventions, the result of creative intellectual construction, which—along with the commitments to (a) specific canon(s) they serve to express—should be examined and critiqued too.

Canons, or sacrosanct elements of traditions in this sense of the word not only define the integrity of traditions, but also form the boundaries of traditions that often function to protect traditions, and as such are often strongly resistant to change. At the same time the boundaries that separate a religious/theological tradition from its milieu are always exceedingly porous,[9] although we theologians—like politicians!—are notorious for inventing protective strategies that mask the necessary fluidity of traditions. Changes in a tradition, though often provoked from outside, are ultimately accomplished by the recovery and reformation of internal elements crucial to a specific tradition. In this sense, then,

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continuity and change exemplify the dynamics of traditions. Furthermore, novelty or change in theological traditions can emerge *unintentionally*, when a tradition is swept along in political-social changes, but also *intentionally*, when change or novelty becomes the result of a conscious human choice.

What this really amounts to is that whether in our religious practices, ecclesial, theological, cultural, and scientific or art traditions, we cannot be separated from our past. However much freedom we have, we still are constrained by the traditions and rituals of our ancestors, and we use this past to negotiate our way through contemporary culture, but in a postfoundationalist theology there would be no recourse to foundationalist certitude by bestowing our canon(s) with objective truth or indubitable knowledge. For a theology that is open to interdisciplinary standards of rationality and public debate, the canonical structures of its core traditions would be less structured and fixed than in foundationalist conceptions of tradition. In this sense, Delwin Brown helpfully suggests that the complexity of a canon and its function in a tradition is analogous to a kind of galaxy, or rather, *a galaxy of meaning*.[10] Just as a galaxy is composed of a vast and varying multiplicity of elements, a canon too—as the sacrosanct core of a tradition—is dynamic, richly plural, and pluriform. However, a galaxy has enough unity and structure to be one thing rather than another, and in the same sense a canon has a rough and practical unity that can be differently construed from different perspectives. A canon, as a complex but identifiable core identity of a tradition, and as a galaxy of meanings, thus has gravitational force, or a gravitational pull that is the result of the way its own internal structure relates to, and is construed in the always plural history of its interpretative relations. Through the dynamic interaction of construction and constraint in the historical evolution of our traditions, these galaxies of meanings creatively give way to interpretative constellations of meaning that we construct in direct interaction with the different challenges presented to theology by contemporary culture.[11]

In this sense, our theological traditions also are cultural negotiations, shaped by what we see as the continuing gravitational pull of the canon of a specific tradition(s). In critically and creatively reconstructing the past, the theologian finally emerges, as Delwin Brown so aptly put it, as the *caregiver of tradition*.[12] This care giving is a dynamic process of negotiation with the fluid heart and flexible boundaries of our most sacrosanct traditions.

Giving care to the *imago Dei*

Against the background of this brief theory of traditions, it should now be clear that central biblical concepts and doctrines such as the *imago Dei* are handed down to us in history as already complexly interpreted mini-theories. These central biblical concepts clearly reveal how crucial biblical texts have been received, experienced, interpreted, and negotiated in the multifaceted history of Christian ideas. The idea behind the rich tradition of the *imago Dei* has always been the strong conviction that we humans are in some important sense special and

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different, since Christians have always believed—according to Genesis 1—that human beings were created in the 'image of God'. In her new book, *In our Image*, Noreen Herzfeld argues convincingly that scriptural references to the creation of humans in the image of God are few and far between, and actually in no way tell of what that image consists.[13] These scriptural passages do seem to imply that the divine image is something that all humans participate in, male and female, through succeeding generations, with dominion over nature, and a specific focus on the value of human life. Whatever this image consists of, it did not disappear with the "fall into sin", and it confers on humans both value and dignity. As such the *imago Dei* stands at the heart of questions like: What does it mean to be human? Is there really something that sets us apart from other creatures, and could the rich tradition behind the notion of the *imago Dei* today be revised to again symbolize what it is in human beings that makes us uniquely human? In Arthur Peacocke's words, are we humans "rising beasts" rather than "fallen angels"?[14]

Another question that should be asked, of course, is whether we should still be talking about something like "human uniqueness" at all. As we will see, some scientists are actually again choosing to talk about human uniqueness quite specifically, while others are focusing on the close connections between humans and animals (especially primates) and are highlighting our close ties to the animal world. It is exactly at this point, I believe, that a conversation with the rich theological tradition of the *imago Dei* can help us to explain why it might still make sense to speak of "human uniqueness" at all.

What I have tried to express earlier by focusing on the role of traditions in theology, is also wonderfully illustrated in the evolution of the concept of the *imago Dei*. Interpretations of the *imago Dei* have indeed varied significantly through history. Noreen Herzfeld gives us the most up-to-date overview of how the *imago Dei* can be categorized in one of three different ways: though substantive interpretations, functional interpretations, or relational interpretations of this crucial concept.[15] On a *substantive interpretation*, one of the most influential and classical views to interpret this tradition, the *imago Dei* is seen an individually held property that is part of our human nature, and it is most often directly associated with *reason*, *rationality*, and *intellect*. This individually held property is called "substantive" because it depicts something of substantial form in human nature, a faculty, or capacity that we humans possess over against animals. Historically, substantive interpretations have been dominant in the history of ideas of the West: all Christian writers up to Aquinas indeed saw the image of God as humankind's power of reason. In fact, most writers up to the Reformation—under the strong influence of Greek philosophy, (especially Aristotle, who saw the human being as "rational animal"), early Fathers and Scholastics, saw the human intellect as the *imago Dei*.

Substantive interpretations have now fallen out of favor among 20th century theologians—although the idea of *reason* as part of the *imago Dei* was prominently present in the work of theologians such as Reinhold Niebuhr and Paul Tillich.[16] Substantive interpretations of the *imago Dei* have been replaced largely by so-called *functional interpretations*, mainly because substantive views are now seen

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as too static, and to strongly expressive of a mind/body dualism. "Functional" here refers to what we as Christians are called to do, and is exemplified by human behavior, like our dominion over animals. On this view humans are God's representatives, and are acting as God's representatives on earth.

Substantive views on the *imago Dei* have now been eclipsed by more pronounced and *relational* views of the *imago Dei*. Certainly the most influential theologian on this view has been Karl Barth: for Barth the image of God does not consist of anything humans *are* or *do*, but rather of the amazing ability to be in a relationship with God.[17] Theologically the argument for this relational interpretation of the *imago Dei* is conceptually embedded in God's nature as Trinity. So, the *imago Dei* here is not just the capacity for relationship, but the relationship itself: first our relationship with God, and then our relationships with each other (both vertical and horizontal dimensions), most clearly exemplified in Jesus, who alone is directly the image of God.

This relational view certainly is the most dominant view in the late-twentieth century. One of the most interesting and influential positions was that of the renowned Dutch theologian, G. C. Berkouwer who critiqued Karl Barth's method, but not his conclusions.[18] Berkouwer charged Barth with theological speculation in his use of Jesus as archetype for our (human) nature, and argues instead that Jesus became like us, rather than we becoming like him. This relationality is neither an *analogia entis*, nor just an *analogia relationis*, but rather an *analogia amoris*: our human uniqueness here is exemplified in that we image God in our love for others.[19] In his own way Wolfhart Pannenberg developed this basic idea of ultimate relationality further and located human uniqueness in the tension between our self-consciousness as individuals and our exocentricity, our openness to others.[20] On Pannenberg's view it is the exocentric structure of human existence, which points forward as a prolepsis of our final becoming of the image of God, our future destiny.

In his careful analysis of the notion of the *imago Dei*, Robert Jenson in his influential *Systematic Theology* starts out by asking: wherein do we resemble God that other creatures do not? Do we resemble God through intelligence (like much of Catholic theology argued), knowledge and wisdom (like much of Reformed theology argues), the possession of will (Catholic theology), or virtues (Reformed theology), the capacity to judge (Catholic theology), or by the right judgments (Reformed theology)? To get at a biblical answer, Jenson points to Psalm 8: 5, where it is stated that we humans are "a little lower than the Gods, crowned with glory and honor."[21] Nowhere is it suggested, however, that such rank and glory consist in any superior capacity of achievement.

This, I believe, is a huge incentive to revision creatively the conceptual resources of the *imago Dei* tradition. Jenson argues that traditional views of seeing the *imago Dei* as human uniqueness in relationship to God is indeed right. What we have is a complex of qualities, a specificity gained from being addressed by God's moral word, and the ability to respond, especially in prayer.[22] I will later argue that this ability is deeply embedded in our species' symbolic, imaginative behavior. For Jenson, and correctly so, we are indeed the praying animals.[23] Against this

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background he can now attempt an answer to the intriguing question: who then was Adam and Eve? They were indeed the first hominid group that in whatever form of religion or language used some form of expression that we might translate as "God". On this view Adam and Eve represents the first hominid group that by ritual action was embodied before God: to be human is to have a body, to be open and available to God, and to one another.[24] Ultimately it is in *love*, then, that we find the true *imago Dei*, thus weaving together all the complex historical components of the history of ideas behind this powerful symbol.

It would be possible to critique Robert Jenson's compelling argument for the *imago Dei* for missing the thrust that the *imago Dei*-symbol should have towards justice (especially on issues of sexism and heterosexism). Not surprisingly this line of argument has been followed by feminist interpretations of the *imago Dei*. In her critical review of the history of this conceptual tradition, Mary Catherine Hilkert states that it was never a question of whether *man* was created in the image of God. It is not at all certain, however, that women were included in the evolution of this theological concept.[25] In the early church and the middle ages, only males were seen to be created in the image of God, not females.[26] Even Augustine argued that woman was made for man, from man, and as man's helper could therefore not share in the image of God.[27] In Thomas Aquinas, although there is no strict rejection of women, the focus is still on the power of rational discernment, which "by nature" is stronger in man. In this sense the *imago Dei* is found in men in a way that it is not found in women.[28] Even John Calvin saw men as destined to rule, but women as destined to obey.[29]

It is interesting, as Hilkert has pointed out, that not only feminists, but also the World Council of Churches has concluded (already in 1981) that the doctrine of the *imago Dei* has traditionally been a source of oppression and discrimination against women. Yet, rethinking the powerful conceptual resources of the *imago Dei* symbol reveals that this theological symbol does indeed give rise to justice; it exemplifies a root metaphor for a Christian understanding of the human person—an understanding that grounds further claims to human rights, because men *and* women are equally persons before God.[30]

In much of contemporary theology it is now acknowledged that the human person has emerged within the process of biological evolution as a dynamic person, exemplified by the emergence of the human brain, creating a culture in its interaction with the world. The human person has, therefore, emerged biologically as a center of self-awareness, identity, and moral responsibility. In this sense the notion of the *imago Dei* can be seen to ground personhood, and the necessity to which the human person is accountable.[31]

Philip Hefner also reaches out to biology and the work of Richard Dawkins and calls the *imago Dei* a *meme*, a complex and powerful cultural symbol, which indicates how much we become persons precisely through our relationship to the world and to God. This personhood is deeply embedded in our genetic and neurobiological nature and proceeds within us along Darwinian lines. "Person" is, therefore, an emergent within evolutionary processes.[32] "Person" is also, however, a construction on a cultural level: culture carries the biological level in new

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directions. In this sense the *imago Dei* expresses that we are created with the purpose of representing God in this world.[33] In this sense, then, we are not superior nor do we have greater value than animals, but we have the specific task and purpose to set forth the presence of God in this world.

Human uniqueness and the *imago Dei*

From this brief overview of the history of ideas in which the notion of the *imago Dei* has been embedded, it is clear that precisely the meaning of the crucial notion of "being created in the image of God" has shifted—sometimes radically—in the constant tension between the ongoing evolution of the Christian tradition and the gravitational pull of this central, canonical idea. In the final part of my article I want to focus on a startling new challenge to the biblical idea of the *imago Dei*, coming from what many regard as the heart of our contemporary culture, the natural sciences.

The current explosion of literature devoted to the religion and science debate is a clear and unambiguous sign that the natural sciences now more than ever before pose a huge and direct challenge to religious and, specifically, theological reflection. In my recent book *The Shaping of Rationality*, I argued that this so-called "theology and science problem" should be considered and developed only as part of the much larger problem of multi- or interdisciplinary thinking.[34] What is also becoming increasingly clear, however, is that our remarkable intellectual capacity for this kind of fluid cross-disciplinary reflection will only be properly understood if we critically appropriate what the sciences are telling us today about how the human mind works.

In a sense, of course, the unavoidable question for Christian theologians seems to be: exactly how special are we as a species? Are we created in the *image of God*, as Christian theology has traditionally maintained, or should we rather think of ourselves as rational animals? I want to argue that this way of framing this important question actually presents us with a false dilemma and with a choice that we do not have to make. A careful look at the origins and prehistory of the human mind will show that both perspectives could be true, and not in any paradoxical way, but within a scientifically informed, complementary view of the nature of human uniqueness.

I want to look briefly, therefore, at some of the evidence gleaned from the interdisciplinary dialogue between evolutionary biology, paleoanthropology, archeology, evolutionary epistemology, and cognitive psychology, and at what these disciplines tell us today about the evolution of a creature called *Homo sapiens*. We all know that sometime in our past our ancestors were part of a remarkable emergence: an emergence into self-awareness, with an increasing capacity for consciousness, the possibility for moral responsibility, and the yearning and capacity for religious fulfillment. This fact alone, of course, offers fascinating challenges to traditional Christian theology, since it is no longer possible to claim some past "paradise" or period in which humans possessed

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moral perfection, a state from which our species has somehow "fallen" onto perpetual decline.

So, the unavoidable question indeed seems to be: how special are we really? Normally when we refer to ourselves as rational animals, what we mean, of course, is that humans have evolved within nature in such a way that much of what we think and do proceeds under the formative guide of *intelligence*. Human intelligence should indeed be seen as the product of a long and complex process of biological evolution. Indeed, our possession of, and our use of intelligence should first be understood in evolutionary terms as our most typical survival mechanism. The ability of our brains to make intelligent judgments and appropriate decisions is the survival instrument of our species, in much the same way that other creatures ensure their survival by being prolific, or tough, or well-sheltered. Owing to this basic fact, our need for information and proper cognitive orientation in our environment is as important as the need for food and sex, and in a sense even more insatiable. The imperative to *understand*, therefore, is something altogether basic for us as humans, and we cannot thrive without reliable information regarding what goes on around us.

While biological evolution accounts for the *possession* of intelligence, explaining the way we actually *use* this intelligence, however, will require a different and broader approach. What this means is that the process of selection not only functions on a biological level, but also somehow seems to operate on an a-physical or cultural level, and serves to favor survival of those cultural forms that prove to be the most advantageous.

Given this perspective, evolution leads to emergent qualities that radically transcend their biological origins, a view that resonates well with recent arguments in Holmes Rolston's work, and with Arthur Peacocke's well-known description of the emergence of complexity. It is also supported by important work now being done by complexity theorists like Stuart Kauffman, as well as other scientists like Ian Stewart and Simon Conway Morris. These scientists, however diverse in their fields and research, all share the view that the emergence of new modes and levels of operation, function, self organization, and behavior that transcend the narrow possibilities of a strictly physical origin should, in fact, be seen as characteristic of evolutionary processes as well.

A number of prominent scientists have recently explored some of these themes, and I have found some of this work especially challenging for any theology that claims to be deeply concerned with interdisciplinary dialogue. In his recent book *Life's Other Secret: The New Mathematics of the Living World*, British mathematician Ian Stewart probes the relationship between intelligibility, evolution, and the mathematical order of the world of nature.[35] Stewart argues forcibly against biological or genetic reductionism, but not along the well-known lines that many scientists, philosophers, and theologians followed in challenging neo-Darwinist and sociobiological genetic determinism. Instead he argues that what we do *not* see is a world where everything blindly obeys instructions coded in its DNA, while nothing else matters. DNA was indeed the *first* secret of life to be discovered by science, but Stewart wants to turn our attention to life's *other* secret—the

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universal mathematical principles of growth and form that even DNA exploits. The role of genetics in the development of organisms can, therefore, only be understood if we also bear in mind the profound effect of physical constraints. Genes, therefore, are not a blueprint, but should rather be seen as something like a recipe: a cell carries out its genetic instructions, the laws of physics and chemistry produce certain constraints and consequences, and only when you put the two together, do you get an organism.

Stewart's research here interestingly dovetails with that of paleontologist Simon Conway Morris, whose work on the Burgess Shale in British Columbia, Canada, has placed the history of life in a new set of contexts and so by implication has shed new light on our place in the history of evolution. In his important work *The Crucible of Creation: The Burgess Shale and the Rise of Animals*, Simon Conway Morris argues that although the Darwinian framework provides the logical underpinning to explain organic evolution, the actual *pattern of life* we observe may require a more complex set of explanations.[36] Conway Morris also famously engages the work of Stephen Jay Gould, as well as "hard" or ultra-Darwinists like Daniel Dennett and Richard Dawkins. Conway Morris argues against Gould by developing his own interpretation of evolution and evolutionary continuity: although there certainly is an evolutionary continuity in the history of life, nearly all the species that have ever lived are currently extinct, and entire ecosystems have also vanished. In these past worlds, much was novel and has no counterpart today, but much is familiar too. This has not so much to do with evolutionary continuity, as with the phenomenon known as *convergence*. For Conway Morris 'convergence' signifies that, whichever way one looks at it, some form of order, pattern, as well as distinct convergent features have almost invariably emerged in the evolutionary process.

This discussion has obvious implications for the very specific problem of the emergence or rise of human intelligence. Conway Morris makes the point that what is important is not just the origin, destiny, or fate of a particular lineage, but the likelihood of the emergence of a particular property, such as human consciousness. If Conway Morris is right, the reality of convergence suggests that human intelligence will almost certainly always emerge. He thus advances an important argument against Gould's overstatement of the role of contingencies in evolution, and argues that the constraints we see imposed on evolution suggest that underlying the huge diversity of forms there is, in fact, an interesting predictability.

In his intriguing book, *Becoming Human: Evolution and Human Uniqueness*, evolutionary biologist and paleontologist, Ian Tattersall, takes his cue for analyzing human uniqueness from the amazing mural work and rock art of our ancient ancestors in the caves of France.[37] Tattersall concludes that our Cro-Magnon ancestors exhibited a distinctly human need for symbolic expression of values and beliefs, and from the beginning the most important *leitmotiv* of this book is the question: what kind of evolutionary history led to the appearance of this symbol-making creature?

Tattersall also examines chimpanzees and other apes that offer the best models for understanding the cognitive capacities of early hominids. However, where Darwin and most neo-Darwinians have held that the anatomical and cognitive

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traits of modern humans gradually arose in tandem, and faint beginnings would be ascribed to our remote ancestors and greater capacities to our more proximate relatives, Tattersall believes the emergence of human uniqueness was achieved in one big quantum leap. Tattersall's unconventional theoretical support for this belief is found in his endorsement of Stephen Jay Gould's and Niles Eldredge's punctuated equilibrium model of hominid evolution. This theory suggests that hominid evolution was punctuated by rapid speciation events, usually caused by dramatic changes in climate or geography during which groups split from one another, creating new species that might then remain morphologically and behaviorally stable for hundreds and thousands of years. It is certainly clear that we share various behaviors, propensities, and physical structures with other kind of animals, and it is through these shared similarities that we know we are an integral part of nature. What Tattersall wants to do, however, is to look carefully at the question of human uniqueness, and at what exactly it is that sets us apart from our closest relatives in nature.

With the appearance of *Homo sapiens* on earth, clearly a totally new kind of being had arrived on the scene. In a sense, however, we are not simply *more* intelligent than other species are, but we are also *differently* intelligent: intelligent in a manner that allows us not only to be self-aware, but also to manipulate the environment around us, in a qualitatively unique way. Tattersall's main point is well taken: *Homo sapiens* is not simply an improved version of its ancestors, but is in fact a new concept, qualitatively distinct from them in highly significant, if limited respects. What has been called the distinctly 'human capacity' is, therefore, not at all just a further development of earlier trends in our lineage, but is in fact a huge leap away from our ancestors, if not genetically, then at least culturally. What Tattersall is describing here is the amazing ability for introspection and self-awareness that we call *consciousness*. The quality of this consciousness we have is, therefore, one of inner experience, and is the filter through which we view and interpret the environment around us. This capacity is our most conspicuous human characteristic.

The evolution of religious belief

For those of us who are also theologians, the question now logically arises: how does all of this relate to the emergence of religion and of religious belief? On exactly this issue Tattersall makes an important point: precisely because every human society, at one stage or another, possesses religion of some sort, complete with origin myths that purportedly explain the relationship of humans to the world around them, religion cannot be discounted from any discussion of typically human behaviors. More importantly, religious belief is one of the earliest special propensities or dispositions that we are able to detect in the archeological record of modern humans.

Exactly at this point, however, an interdisciplinary dialogue with the sciences will seriously challenge Christian theology and its notion of the human being as *imago Dei*, or 'image of God'. It is precisely in our notions of God that we see our

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human condition most compactly reflected. Human beings, despite their unique associative mental abilities, are incapable of envisioning entities that lie outside their own experience or that cannot be construed from what they know of the material world. The notion of God is exactly an entity of such a kind and therefore has remained resolutely anthropomorphic. We continue to imagine God in our own image simply because, no matter how much we may pride ourselves on our capacities for abstract thought, we are unable to do otherwise. Importantly, however, this does *not* imply the illusionary character or non-existence of God, but in fact might actually reveal the only intellectually satisfying way of imaging a God with whom we can have a relationship at all.

Steven Mithen, well-known British archeologist, also recently took on the challenge to come to grips with the intangible human mind in his book *The Prehistory of The Mind: The Cognitive Origins of Art, Religion and Science*.[38] Here, too, the crucial question is: what happened to the human mind that allows it to create art, do science, and creatively symbolize religion and religious faith, when not a trace of any of these are found even in the chimpanzee, our closest living relative? Mithen's work also throughly rejects typical "supernaturalistic" theologies, which hold that the human mind suddenly sprang into existence fully formed. In so doing, he sets out to find what he calls the "cognitive foundations" of art, religion, and science. By exposing these foundations, he intends to demonstrate that we share common roots with other species, even if the mind of our closest living relative, the chimpanzee, is indeed fundamentally different from our own. Ultimately his argument is that the modern human mind has an architecture built up by millions of years of evolution, which finally yielded a mind that creates, thinks, and imagines. Mithen suggests that three broad stages for the evolution of the human mind can be identified, which leads him to formulate his most important metaphor for the complex, creative human mind: *the mind as a cathedral*. We can think of the mind of each individual as a new cathedral being built as he or she develops from an infant to a mature adult, and it is built according to the architectural plan encoded in the genetic constitution of that individual, as inherited from parents, and under the influence of the particular environment in which he/she develops.

Mithen fills out the three stages in the development of the human mind as follows: *phase one* is where human minds were dominated by a central "nave" of generalized intelligence; *phase two* contains this nave of generalized intelligence, but has now added multiple "chapels" of specialized intelligences, that can be identified as the domains (or "chapels") of social intelligence, technical intelligence, and natural history intelligence; *phase three* brings us to the modern human mind in which the so-called "chapels" or cognitive domains have been connected, and information flows freely between them, resulting in what Mithen calls *cognitive fluidity*. With this cognitive fluidity, the mind acquired not only the ability, but also a positive passion for metaphor and analogy. With thoughts originating in different domains engaging together, the result is an almost limitless capacity for imagination.

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Most importantly, though, the rise of a complex, cognitively fluid human mind is also directly related to the rise of religion. Many of the new types of behavior, such as anthropomorphic images in cave paintings and the burial of people with grave goods, suggests that these Upper Palaeolithic people were the first to have beliefs in supernatural beings, and possibly also in an afterlife. Creative religious ideas could only arise from a cognitively fluid mind. At exactly this point, however, one could pose a critical question to Mithen: after tracing the development of cognitive fluidity from general intelligence through language, technical intelligence, natural history intelligence, and social intelligence, why does Mithen stop short of acknowledging a new kind of "symbolic intelligence" that would explain, or at least accommodate the origins of art, of religion, and of science? It is already clearly implied in his argument that the new cognitive fluidity transformed the human mind and all aspects of human behavior completely. In this sense, then, and as part of a "big bang" of cultural explosion, we see the appearance of concepts and beliefs which no single cognitive domain could create by itself, especially complex conceptualities such as art and religion.

Both Tattersall and Mithen's positions strongly resonate with philosopher Holmes Rolston's important recent work, especially his *Genes, Genesis and God: Values and their Origins in Natural and Human History*.[39] Rolston has pointed far beyond sociobiology in his argument for gene-culture co-evolution: if human minds are not to be completely controlled by genes, then a more plausible possibility for gene-mind co-evolution is that certain kind of minds, produced with certain sets of genomes, will be disposed to certain sorts of cultural practices. But even if we are genetically disposed to certain behaviors, human minds have evolved with amazing flexibility and imagination. For sociobiologists such as E. O. Wilson, this would clearly reveal that genes hold culture on a leash, even if it is a long leash. Rolston, however, convincingly argues that natural selection is greatly relaxed in great areas of cultural activity. The leash is broken; biology and culture are two dramatically different phenomena—even though culture is superimposed on biology, and even though they both can be subsumed under a formal selection theory. Against this background Rolston can then proceed to argue that science, ethics, and religion importantly transcend their biological frameworks, even as they acknowledge and understand their biological origins.

This obviously again leads to the important question: what would be a plausible account of the genesis of religion, especially since it is clear that with the emergence of religion something appeared the likes of which this planet had never witnessed. For Rolston, the emergence of religion may actually represent the achievement of complete new levels of insight. The fact that our conceptual and perceptual facilities have evolved does not mean that nothing true appears in them, or that nothing new can ever appear in them. This leads to a highly plausible suggestion: although biological origins clearly contribute to our human understanding, the genesis of religion, so unique to humans, is unlikely to be something one can extrapolate from earlier explanations in biology. One of Rolston's most important conclusions, then, goes as follows: biology does not generate religion; the phenomenon of life, rather, evokes religious response.[40]

Conclusion

What can theology now learn from the insights science has provided about the evolution of human uniqueness and the emergence of complexity, and how will these insights affect the already complex dialogue between these very diverse reasoning strategies? I have argued recently that there is no clear philosophical blueprint or timeless recipe for relating the bewildering complexity of contemporary theologies to the increasingly complex spectrum of contemporary sciences.[41] This does not mean, however, that we cannot develop focused dialogues between theology and the sciences on issues that are quite specific, and that resonate with both partners in this dialogue. I do believe that the evolution of "human uniqueness" brought to the fore by the sciences of consciousness, evolutionary biology, and paleoanthropology, presents us with an outstanding and exciting case study for precisely this kind of interdisciplinary dialogue.

Clearly Christian theology has traditionally assumed a radical split between human beings (created "in the image of God") and the rest of creation. This split has mostly been justified by reference to cognitive traits like human rationality or intelligence, which served to define what exactly was meant by "human uniqueness". Research in animal cognition has shown, however, that we may not be as unique as we think we are.[42] Even if we were to agree that various levels of consciousness extend over, and deeply connect the animal and human world,[43] it is still unambiguously clear that our conception of "human uniqueness" should be broadened to include the emergence of art, technology, religion, and eventually science, as the products of this cultural evolution.

Science, art, and religion, as direct products of cultural evolution, are all deeply embedded in the *cognitive fluidity* of the human mind/brain. As such, they rely on psychological processes that originally evolved in specialized cognitive domains and only emerged when these processes could actually work together. Cognitive fluidity enabled the development of a technology that could catalogue problems and store information. Of perhaps even greater significance, it allowed for the possibility of powerful metaphors and analogy, without which science, religion, and art could not exist. What is clear, as we saw in the work of Tattersall, Conway Morris, and Ian Stewart, is that *the potential arose in the mind* to undertake science, create art, and discover the need and ability for religious belief, even though there were no specific selection pressures for such abstract abilities at any point during our past. Crucial to the prehistory of the human mind, then, is the amazing emergence of cognitive fluidity. It is in the way that the human brain now is hardwired for this cognitive fluidity that we may find the key to imaginative interdisciplinary reflection on a *cultural* level.

A theological appropriation of these sciences at the very least should inspire the theologian to carefully trace and rethink the complex evolution of the doctrine of the *imago Dei*. As we saw, interpretations of the *imago Dei* have indeed varied dramatically throughout the long history of Christianity. In much of contemporary theology, the notion of the *imago Dei* is already seen as grounding personhood. Theologians are thus challenged to rethink what human uniqueness might mean

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for the human person—a being that has emerged biologically as a center of self-awareness, identity, and moral responsibility. Personhood, now richly reconceived in terms of imagination, symbolic propensities, and cognitive fluidity, may enable theology, in turn, to revision its notion of the *imago Dei* as a concept that does not imply a value superiority over animals, but which does express a specific task and purpose to set forth the presence of God in this world.[44] I would, therefore, call for a revision of the notion of the *imago Dei* that acknowledges our close ties to the animal world and *its* uniqueness, while at the same time focusing on what our symbolic and cognitively fluid minds might tell us about the emergence of human uniqueness, consciousness, personhood, and the propensity for religious awareness and experience.

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Endnotes

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3 Cf. Miroslav Volf, *Exclusion and Embrace: A Theological Exploration of Identity, Otherness and Reconciliation* (Nashville, TN: Abingdon Press, 1996), 37.
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6 Larry Laudan, *Progress and its Problems: Toward a Theory of Scientific Growth* (Berkeley, CA: University of California Press, 1977), 77ff.
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20 LeRon Shults, "Constitutive Relationality in Anthropology and Trinity: The Shaping of the *Imago Dei* Doctrine in Barth and Pannenberg" in *Neue Zeitschrift für Systematische Theologie und Religionsphilosophie*, 39, no. 3 (1997).
21 Robert Jenson, *Systematic Theology,* vol. 2 (Oxford: Oxford University Press, 1999), 55.
22 Ibid., 58.
23 Ibid., 59.
24 Ibid.
25 Mary C. Hilkert, "Cry Beloved Image" in *In the Embrace of God: Feminist Approaches to Theological Anthropology,* Ann O'Hara Graf, ed. (New York, NY: Orbis, 1995), 193ff.
26 cf. Peter Abalard
27 Mary C. Hilkert, "Cry Beloved Image," 193.
28 Ibid., 193.
29 Ibid., 197.
30 Ibid., 198.
31 Cf. Philip Hefner, "*Imago Dei*: The Possibility and the Necessity of the Human Person", in *The Human Person in Science and Theology,* Niels H. Gregersen, Willem B. Drees, and Ulf Görman, eds (Edinburgh: T&T Clark, 2000), 73.
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34 See note 1.
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